

transmission statistic multiplex signals, and generate a plurality of receiving ATM signals, and

said first and second multiplex gateway devices transmit said receiving ATM signals to said first and second terminal device through said first and second local area ATM networks, respectively.

4. A statistic multiplex transmission system as claimed in claim 3, wherein said first and second multiplex gateway devices comprise:

first means for calculating statistic information represented by a mean rate and a peak cell rate of ATM cells in said transmission ATM signals; and

second means for performing a multiplexing processing of said ATM cells according to said statistic information, and for transmitting said transmission statistic multiplex signals to said public ATM network.

5. A statistic multiplex transmission system as claimed in claim 4, wherein said second means includes:

third means for conducting rate addition after statistic multiplexing according to said statistic information and for determining said rate addition result;

fourth means for calculating a required piece-wise constant bit rate on the basis of said rate addition result, and for performing cell multiplex control on the basis of said piece-wise constant bit rate; and

fifth means for transmitting said transmission statistic multiplex signal according to said cell multiplex control.

6. A statistic multiplex transmission system as claimed in claim 5, wherein said fifth means receives said transmission

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